DOCUMENT RESUME

ED 094 094 UD 014 474

AUTHOR	Logan, Juanita
TITLE	Diagnostic Reading Clinic. Title I Evaluation, 1972-1973.
INSTITUTION	Cleveland Public Schools, Ohio. Div. of Research and Development.
PUB DATE	Dec 73
NOTE	52p.; Fund 58 - Component 4
EDRS PRICE	MF-$0.75 HC-$3.15 PLUS POSTAGE
DESCRIPTORS	*Elementary School Students; Nonpublic School Aid; Paraprofessional School Personnel; Parent Participation; Program Evaluation; Reading Diagnosis; Reading Improvement; Reading Materials; *Reading Programs; *Remedial Reading; *Secondary School Students; Urban Schools
IDENTIFIERS	Elementary Secondary Education Act Title I; ESEA Title I; *Ohio

ABSTRACT

In recognition of the critical relationship of inadequate reading skill in the syndrome of alienation and disenchantment concerning the school experience, the Cleveland schools have implemented the Diagnostic Reading Clinic program as an integral part of their Title I, 1965 Elementary Secondary Education Act, services. A total of 1,903 pupils received services from the Diagnostic Reading Program, Satellite Clinics, and Follow-Up Clinicians program. The program provided correctional reading services, psychological assessment, referral services for health and medical problems, speech and hearing examinations, visual health screening, social work services, and the development of study skills where indicated. Nine consultants provided followup services for pupils returned to the classroom. Findings indicate that three out of eight pupils improved their performance levels to within one year of their reading expectancies. Long-term pupils--the most severaly disabled group--showed an average gain of almost 16 and one-half grade equivalent units between their performance levels and reading expectancies. Moderate-term pupils made an average gain of six grade equivalent units between performance levels and reading expectancies in an average service period. (Author/JM)

BEST COPY AVAILABLE

ED 094094

DIAGNOSTIC READING CLINIC

TITLE I EVALUATION

1972-1973

FUND 58-4

Prepared by:

Juanita Logan
Research Associate

Typed by:
Wanda Wilson

Margaret Fleming
Director

Cleveland Public Schools

DIVISION OF RESEARCH AND DEVELOPMENT

December, 1973

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRO-
DUCED EXACTLY AS RECEIVED FROM
THE PERSON OR ORGANIZATION ORIGIN-
ATING IT. POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRE-
SENT OFFICIAL NATIONAL INSTITUTE OF
EDUCATION POSITION OR POLICY

BEST COPY AVAILABLE

DIAGNOSTIC READING CLINIC

I. INTRODUCTION

A. Needs and Rationale

Massive attacks upon reading failure have been launched in the schools of Cleveland. Pupils with severe reading disabilities which appear to be unresponsive to regular classroom reading procedures, have been identified. For them, the services of the Diagnostic Reading Clinic are needed to provide the most effective intervention. Here, specialists in reading provide individual assessment and corrective procedure specifically designed for unique reading disabilities. Multi-diagnostic team services and prescriptive approaches support the child's reading efforts.

It has been well documented that reading disabilities limit future employment and educational opportunities. In recognition of the critical relationship of inadequate reading skill in the syndrome of alienation and disenchantment concerning the school experience, the Cleveland Schools have implemented the Diagnostic Reading Clinic program as an integral part of its Title I services.

The aims of the Diagnostic Reading Center include the following objectives:

1. Pupils meeting program referral criteria and completing the prescribed term of service will attain an appropriate level for their reading expectancy which shall be determined by the Bond - Tinker formula.

Certain criteria will be indicative of appropriate functioning:

a. independent pupil performance with materials at least half of the time will be reported by teachers for two out of three pupils receiving full service.

b. achievement on standardized reading tests and inventories within one year of reading expectancy by two out of three pupils receiving full service.

2. All pupils will receive the coordinated services of related disciplines in the diagnosis and correction of reading difficulties.

3. Parents of at least 75 per cent of participating pupils will be involved in support of the center's efforts to remediate the reading disabilities of their child.

4. At least 75 per cent of classroom teachers will evidence contact with project staff in regard to instructional techniques and progress of referred pupils.

5. Approximately 50 per cent of pupils with post program status indicating a need for continued support in home schools will receive the services of follow-up clinicians where logistically possible.

B. Historical Background

Since February, 1967, the Diagnostic Clinic has been operated under Title I Funding. It was originally established under an Office of Economic Opportunity grant in 1966 and located in property adjacent to Lula Diehl Junior High School. To enlarge facilities, operations were transferred to Jane Addams Annex in 1968. The Clinic has provided remediation services in greater intensity and scope than could have been offered in the usual classroom setting.

Certain redirections have been incorporated into the program during its seven years of operation as a result of process evaluation. These have included:

- Enlarged facilities to meet program needs;
- Designed flexible remediation periods so that "long", "moderate", or "short" term services could be provided according to prognosis for pupil;
- Planned parent visitation;
- Expansion of the visitation program and feedback service for classroom teachers of pupils being served at the clinic to facilitate teachers' reinforcement of pupil progress;
- Satellite clinic centers;
- Follow-Up Clinician service

During the 1969-70 school year, Clinic services were provided to 532 pupils. Evaluation results indicated substantial improvement in reading performance had been attained for sixty per cent of the pupils. Clinic services during 1969-70 appeared to have more impact than during the previous year (1968-69) when 49 per cent of the participants attained an appropriate performance level in relation to their reading expectancies. During the 1970-71 project year, 846 pupils received Clinic diagnostic services and instructional treatment. Evaluation showed that approximately 37 per cent of participants achieved reading gains which placed them within the criterion level considered appropriate for their reading expectancies. A total of

1,515 pupils received services from the Diagnostic Reading Program including pupils served by Satellite Clinics and Follow-Up Clinicians during the 1971-72 program year.

C. Summary of Operations

This evaluation focuses on services of the Diagnostic Reading Clinic during 1972-73. A total of 1,903 pupils, (1,790 public and 113 non-public school pupils) received services from the Diagnostic Reading Program, Satellite Clinics and Follow-Up Clinicians program. Staff included 52 persons. Of this number 42 were professionals and 2 paraprofessionals. Clerical staff and drivers comprised the remainder.

The program provided correctional reading services, psychological assessment, referral services for health and medical problems, speech and hearing examinations, visual health screening, social work services and the development of study skills where indicated.

During the 1972-73 school year, nine consultants provided follow-up services for pupils returned to the classroom.

Cost information for the project shows a per pupil rate of $407.45 based on a total expenditure of $775,395 and a service level of 1,903.

BEST COPY AVAILABLE

D. Questions to be Answered by Evaluation

The evaluation focused on the following questions to assess the effectiveness of the Clinic's services:

1. How many pupils improved their reading skill so that they could be considered to be performing at an appropriate level?

2. What improvement did pupils receiving long, moderate, and short term service make?

3. What evidence of progress did pupils exhibit in terms of final marks in reading and use of reading materials in the classroom?

4. What were teachers' perceptions of the program services on pupil progress?

5. Did teachers visit the Clinic?

6. What were parents' opinions about pupil progress?

7. How are pupils progressing who received service during the 1969 through 1971 service periods?

8. What improvement did pupils serviced by Follow-Up Clinicians make?

II. HIGHLIGHTS OF FINDINGS

A. Summary of Key Findings

It should be recognized in interpreting results of this evaluation that participating children have exhibited low levels of reading mastery for most of their school experience. Establishment of "fair" criteria for progress represents an exceedingly difficult task. Obviously, the method applied in this program--use of a reading expectancy formula, is only one way to resolve the problem of reporting "real" progress. It attempts to provide "individualized" progress levels, rather than a "theoretical" average mark that all children must make. It can be generally stated

BEST COPY AVAILABLE

that given the previous rate of learning of the pupils Clinic services have facilitated their progress.

Specific questions addressed by the evaluation and findings:

1. How many pupils improved their reading skill so that they could be considered to be performing at an appropriate level?

   - Using a criterion of within one year of reading expectancy as "an appropriate level of performance", three out of eight pupils improved their performance level to within one year of their reading expectancies.

   - Long-term pupils, (the most severely disabled group), showed an average gain of almost sixteen and one-half grade equivalent units between their performance levels and reading expectancies. This gain was evidenced in an average service period of slightly better than five and one-half months.

   - Moderate-term pupils made an average gain of six grade equivalent units between performance levels and reading expectancies in an average service period of slightly more than three and three-fifths months.

   - Short-term made an average gain of approximately seven months in an average service period of two and three-fifths months.

Chart I summarizes the average gains between performance levels and expectancies for these service groups.

BEST COPY AVAILABLE

CHART I

Average Gains Between Reading Performance Levels and Expectancies

Service Group	No. Pupils	Average Gains in G.E. Units	Average Service Period in Mos.
Long	10	16.60	5.50
Moderate	34	6.11	3.63
Short	43	7.00	2.60
TOTAL SAMPLE	87	9.90	3.91

3. What evidence of progress did pupils exhibit in terms of final marks in reading and use of reading materials in the classroom?

   . Approximately two per cent of pupils received "A", 46 per cent "C", 37 per cent "D", 10 per cent "F" and five per cent received no grade on the teacher rating sheet.

   . Teachers rated an overall total of slightly more than three out of five pupils (62%) as being able to handle classroom materials always to sometimes.

4. What were teachers' perceptions of the program services on pupil progress?

   . In word analysis and comprehension, ratings by teachers placed the greater majority of their students in the lowest to middle one-fifth of their classes.

   . Greatest impact appeared to be in word analysis and completing written assignments.

   . Positive directions were noted in areas of group participation,

BEST COPY AVAILABLE

completion of assignments, self-confidence, peer-rapport and general attitude toward school.

5. Did teachers visit the clinic?

   . Approximately 74 per cent of the teachers included in this evaluation reported that they visited the clinic. A program of teacher visitation to the clinic for those teachers whose pupils were clinic participants was implemented in the spring of 1972. In this way, the Diagnostic Reading Clinic established the line of communication which teachers had requested in prior reports. Teachers were highly enthusiastic about their visitations to the clinic.

6. What were parents' opinions about pupil progress?

   . Parents valued their children's increased interest in reading, grasp of vocabulary and better reading habits.

   . The greater majority observed increased use of library books, more understanding of what was read, improved speech and communication of ideas.

7. How are pupils progressing who received service during the 1970-72 project years and are in their home schools during 1972-73 school year?

   . City-wide test scores for prior Clinic participants who had received Clinic service from 1970-72 and who were in the sixth grades of their home schools showed their average grade placement as 3.9 in comprehension, stanine three.

B. Implications and Recommendations

These findings suggest:

   . continuance of Clinic services to children who meet the program criteria

   . the 1972-73 Clinic pattern of success was based upon interdisciplinary diagnostic processes, and prescriptive

BEST COPY AVAILABLE

teaching techniques implemented by trained clinicians

- gain yield was greater for long-term pupils than for short and moderate term group
- approximately 85 per cent of the pupils were performing appropriately in relation to teacher expectations as judged by teachers' marks
- parents were enthusiastic about the Clinic services for their children
- continued supportive service for prior Clinic participants has been implemented with the services of follow-up clinicians where possible
- channels of improved communication between classroom teachers and the Clinic staff have provided opportunities for classroom teachers to gain a deeper understanding of the Clinic program as they see pupils at work with clinicians
- the concept of school satellite clinic centers* has been implemented
- pupils receiving the services of Follow-Up Clinicians have shown improvement during the 1972-73 program year.

It is recommended that the clinic:

- continue and intensify strategies that have proven to be the base for improved reading for participants
- strengthen/modify the orientation in-service to parents and individual teachers of pupils prior to acceptance of pupils as participants. It is imperative that teachers monitor the reading progress of Clinic participants
- expand the Follow-Up Clinician program as staff becomes available

---

*Satellite Clinic Centers opened in the schools in the 1971-72 school year.

III. PROJECT DESCRIPTION

A. Participants' Characteristics

Clinic records indicated that the following numbers of pupils at each grade level were served by the Diagnostic Clinic.

Grade	Public	Non-Public	Total
4	684	41	725
5	523	37	560
6	580	20	600
7	3	13	16
TOTAL	1790	113	1903
%	(94.1)	(5.9)	(100.0)

From the total group receiving diagnostic services, 778 were assigned to the Clinic for the correctional reading program according to the following treatment categories:

- Long-term service, 72 pupils representing 9.3 per cent of the service group.
- Moderate-term service, 278 pupils, representing 35.7 per cent of the service group.
- Short-term service, 428 pupils, representing 55 per cent of the service group.
- Follow-Up Clinicians serviced 248 pupils.

Approximately 33 per cent of pupils receiving diagnostic services were not assigned to remediation.

It must be recognized that many pupils referred to and diagnosed by the clinic have not been remediated for the following reasons:

1. The Clinic continues diagnosis of referrals throughout the year as teachers and principals submit referrals.

2. The Clinic is operating with capacity enrollment at the time that the current school year referrals are made.

3. Prescriptive plans are submitted to schools when Clinic diagnosis reveals the pupil's reading deficiencies can be remediated within the classroom by the classroom teacher with consultation by clinicians.

4. In some instances, Clinic diagnostic procedures have revealed uncorrected health needs. At this time, referral to the appropriate community facility with counseling to the parent is necessary prior to clinic remediation.

The non-public to public school service ratio, as can be seen in Chart I, was slightly less than one out of 17 pupils (5.9 per cent). Greater than half of pupils referred were boys (66 per cent), which condition appears to reflect a slight increase in the pattern of greater incidence of reading problems for boys. The previous year's evaluation reflected one out of two boys (54 per cent).

Average daily membership during the school year approached 771 pupils. Participants received service for an average of five hours per week during their assignment time. Attendance for the three service groups averaged 43.97 days for short-term pupils, 68.29 days for moderate-term pupils and 86.33 days for long-term pupils.

The long-term service periods ranged from three to eight months, with the following distributions.

- 20 per cent of pupils spending six months
- 40 per cent spending five to five and one-half months.
- 30 per cent spending four months.

Moderate-term service fell into the following patterns:

- two per cent, four and one-half months
- 62 per cent, four months
- 29 per cent, two to three and one-half months

Assignment periods for short-term pupils were:

- 28 per cent, three to three and a half months
- 58 per cent, two and a half months
- 16 per cent, one and a half to two months

Diagnosis with the Gates-McKillop Diagnostic Reading Test which was individually administered to every child diagnosed at the Clinic, revealed a full range of reading problems. Generally, these areas of difficulty involved poor word attack skills and inadequate auditory discrimination powers. Chart II shows the subtest results with average grade equivalent scores and the range of grade

equivalent scores. These data show low levels of auditory and visual skills at the core of the problem for children referred to the clinic.

CHART II

Summary of Results

Gates-McKillop Diagnostic Reading Test
Average Grade Equivalent Scores

Sub-Test	Long-Term	Moderate-Term	Short-Term
Oral Reading	3.0	3.4	3.7
Words: Flash Presentation	3.2	3.2	3.9
Words: Untimed Presentation	3.6	3.2	3.8
Phrases: Flash Presentation	3.8	3.5	4.7
Knowledge of Word Parts			
. Recognizing and Blending Common Word Parts	2.7	2.8	3.1
. Giving Letter Sounds	3.4	3.6	3.5
. Naming Capital Letters	2.2	2.2	2.0
. Naming Lower Case Letters	2.6	2.5	2.9
Recognizing the Visual Form or Word Equivalent of Sounds			
. Nonsense Words	3.3	4.0	3.7
. Initial Letters	3.8	3.5	3.5
. Final Letters	3.3	3.6	3.3
. Vowels	3.4	3.8	3.9
Auditory Blending	3.2	3.3	3.0
Range of Averages	2.2-3.8	2.2-4.0	2.9-4.7

These data point to a need for improved monitoring of pupil progress toward reading mastery. When usual classroom approaches do not reach children, alternatives related to instruction and reading materials have to be explored. These alternate strategies in addition to systematic monitoring process, delivery of appropriate intervention strategies, and staff development programs to improve teacher competencies in dealing with auditory and visual reading problems must be employed to reduce significantly the current incidence of severe reading difficulties.

B. Project Operations

The Diagnostic Reading Clinic continued the practice of providing flexible periods of remediation during the school year 1972-73. This arrangement individualized program services for the participants. Long-term service was made available to pupils for whom the prognosis suggested at least a four and a half to nine month remediation period. Moderate-term instruction was assigned to those pupils requiring from three to four and a half months of correctional services. Short-term remediation was assigned to pupils exhibiting more specific disabilities and a higher level of mastery of auditory and visual reading skills. Pupils in the short-term service group received services ranging from one and a half to three months.

Case studies were developed by the Clinic staff using an interdisciplinary approach for all pupils served. A total of 333 parent contacts were reported including

individual conferences with 60 parents, 188 home visits, 25 parental classroom visits, and small group meetings at the Clinic site attended by 108 parents.* Records indicated that 130 hours were spent in providing parental involvement activities.

Diagnosis of pupils included individual psychological assessment by Clinic psychologists and clinicians. Assessment procedures included measures of scholastic aptitude, visual and auditory perception, word analysis skills, oral and silent reading, listening level and comprehension skill. Medical histories of each pupil were also compiled. Sight and hearing deficiencies were identified and appropriate speech evaluations made for all pupils. Case study information also included observations about current school performance from the classroom teacher and records of past school history. These data were compiled in an attempt to identify critical factors contributing to the pupils' reading disabilities.

Transportation was provided by Clinic minibuses. Pupils were shuttled to and from their home schools to the Clinic on a daily basis.

Directed by the Educational Program Manager of the Reading Instruction Program, the staff included a total of 52 persons. Personnel included a coordinator, 32 reading clinicians, (1 part-time), 4 part-time psychologists, 2 social workers, a speech therapist, a nurse, 2 teacher aides, one clerk, 6

*Duplicated count

drivers and a part-time parent coordinator. Overall teaching experience for the staff ranged from 3 to over 20 years. Sixteen professionals held a master's degree. A total of 32 members of the professional staff had over two years of teaching experience in Title I programs.

Average time devoted to reading instruction in the upper elementary grades approached 25 per cent of total instructional time. Per pupil expenditure for Cleveland elementary schools approximated $518.69* during the 1972-73 school year. Diagnostic reading instruction appeared to cost about $407.45** per pupil in the upper elementary grades. Therefore, in addition to the usual $129.67 expended for instructional costs related to reading, an additional $407.45 per pupil was provided for pupils receiving program services.

Diagnostic Clinic services were provided with a total cost of $775,395.00 which produced an average per pupil cost of $407.45 using a total of 1,903 pupils who received diagnostic and remedial services. Calculation of the cost of each .1 grade equivalent units achieved by the pupils using the overall average of 9.9 grade equivalent units of gain evidenced by the total sample results indicated a cost factor of $41.66 for each grade equivalent unit.

---

*General Fund Per Pupil Expenditure, 1972-73

**Charges to Account 200, Instruction plus Fixed Charges

IV. EVALUATION

A. Basic Design

The nature of the Diagnostic Clinic program precluded the use of an experimental-control design for evaluation of services. An individual-vs.-self assessment was employed to introduce an objective dimension in the judgment of pupil progress toward a performance level relevant to the particular pupil's strengths.

The evaluation focused on the following factors:

- Improvement of the pupils' reading performance in relation to their reading expectancies as established by the Bond-Tinker formula
- Services provided by the Clinic
- Parent and Staff Perceptions

Chief data sources included:

- Standardized Reading and Scholastic Aptitude Tests
- Teacher observations of pupil progress
- Parent observations of pupils' reading at home and their feelings regarding program effect

Reading performance was assessed through the use of the Gates-MacGinitie Reading Tests, Primary A, B, C and D, Forms 1 and 2. These tests provided pre and post-program measures. The Gates-McKillop Reading Diagnostic Test, Form 1 was used as the individual diagnostic instrument. Scores

from the Gates-MacGinitie Reading Comprehension Test were compared with the reading expectancies generated for each pupil to determine their progress. The reading expectancies were obtained by means of the Bond-Tinker formula as explained in the section of this report dealing with the main findings.

The sample used for the evaluation consisted of 87 pupils randomly selected from the Clinic's files. Forty of the Title I schools were represented in this sample. Median age of the sample was 10.7. Approximately 49 per cent of the sample were short-term, 39 per cent moderate-term and 12 per cent were long-term.

Teachers of the pupil sample completed a pupil rating sheet on which were recorded ratings of the pupil's performance in the classroom, descriptions of their reading difficulties, final reading marks and recommendations for the program. Seventy-six per cent of the teachers returned completed ratings of pupils in their classes who were in this sample.

Parent questionnaires were returned by 56 per cent of the 87 pupils in this sample. Parents reported observations of pupil reading progress and provided recommendations about the program.

Appendix I lists the number of pupils in the

evaluation sample and schools represented in the evaluation report. Change scores reflecting the differences between reading expectancies and performance are reported in Appendix II. Appendix III contains the pupil rating sheet results submitted by classroom teachers and Appendix IV, results of the parent questionnaire.

B. Main Findings

The major question of the evaluation was:

1. How many pupils improved their reading skill so that they could be considered to be performing at an appropriate level?

A criterion of within one year of reading expectancy was considered to be an "appropriate level of performance." A second criterion was independent performance by pupils with materials in the regular classroom.

The evaluation was concerned with the change between the pupil's reading expectancy and functioning level in reading. The Bond-Tinker formula for reading expectancy was used to establish an optimum level for each pupil through individualization of a standard for assessing the pupil's progress. The formula is the product of the pupil's years in school, his scholastic performance as indicated by a deviation I.Q. score such as that obtained from the Wechsler Intelligence Scale for Children and the pupil's years in school (years in school $\times \frac{\text{IQ score}}{100} + 1.0$). This procedure of comparison of pre and

post-program standings for each pupil in relation to their expectancy was preferred to the practice of relying on comparisons with absolute standards reflected by so-called norms. Comparison with norms ignores the ability level and school experience of the youngster being compared. The performance units used were the grade equivalent scores obtained from the Gates-MacGinitie Reading Comprehension Test which was administered on a pre and post-program basis.

The "appropriate level of functioning" was set according to the classification system delineated by Wilson which prescribes tolerable discrepancy scores in relation to the grade levels.[1] An average of these (.8 for the fourth grade, 1.0 for the fifth and 1.2 for the sixth grade levels) produces an average discrepancy score of 1.0 which was applied in this evaluation. It was considered that pupils performing within a year of their expectancies would be at an appropriate level and would not be considered disabled.

Results indicated that on the basis of post program reading comprehension scores three out of eight pupils in the total service group narrowed the discrepancy between their performance levels and reading expectancies to 1.0 or less grade equivalent units. Average gain in grade equivalent units was 9.9 in an average service period of 3.9 months for the total service group.

---

[1]Wilson, Donald B.; Diagnostic and Remedial Reading; Columbus, Ohio; Charles E. Merril Books, Inc.; 1967.

Greatest increase in performance was noted for the long-term group where about one out of two (approximately 50 per cent) attained the criterion performance level -- within one year of their reading expectancies. In an average service period of 5.50 months the average gain in grade equivalent units for this group was 16.60.

For the moderate-term pupils about one out of four pupils (26.5%) achieved the criterion level. Average gain for this group was 6.11 grade equivalent units in an average service period of 3.6 months. Appendix II presents lists of specific gain or loss as determined from sample data.

Scholastic aptitudes of pupils referred as potential participants for Clinic services were revealed at the time of testing. It was recognized that results indicated capabilities at that point in time. The following table reflects the results.

Median Scholastic Aptitude
of Selected Pupils

Term	Range	Median
Short	66-112	89.17
Moderate	68-118	86.75
Long	74-100	86.83
TOTAL	66-118	87.11

The wide range of abilities shown in the foregoing table is representative of the Clinic's responsibility to the reading needs of children. Complete diagnostic procedures demonstrated that variables were operative for a limited number of selective participants whose abilities were below that set by the criteria. It was considered that these variables might be amenable to correction through Clinic services. The median intelligence quotient of 87.4 places pupils in this category at a minimum.

A total of 44 per cent of the short-term pupils reached the criterion for the program in the short-term service group. In two and one half months, this group gained 7.0 months.

Inspection of Chart III reveals that 100 per cent of the long-term pupils began their program at the Clinic with a level of -2.1 and below their reading expectancies. Approximately 50.0 per cent of the moderate-term pupils began in the Clinic program with performance levels of two years below their reading expectancies, while 51.2 per cent of the short-term group did. This would suggest that according to the Bond-Tinker formula better than one-half of the short-term pupils were not performing within a tolerable range of their expectancies. It should be recognized however, that the formula is a gross screening tool which does not pinpoint "specific" skill deficiencies which are

amenable to short-term correctional instruction programs. The formula focuses on a general operating expectancy for the pupil.

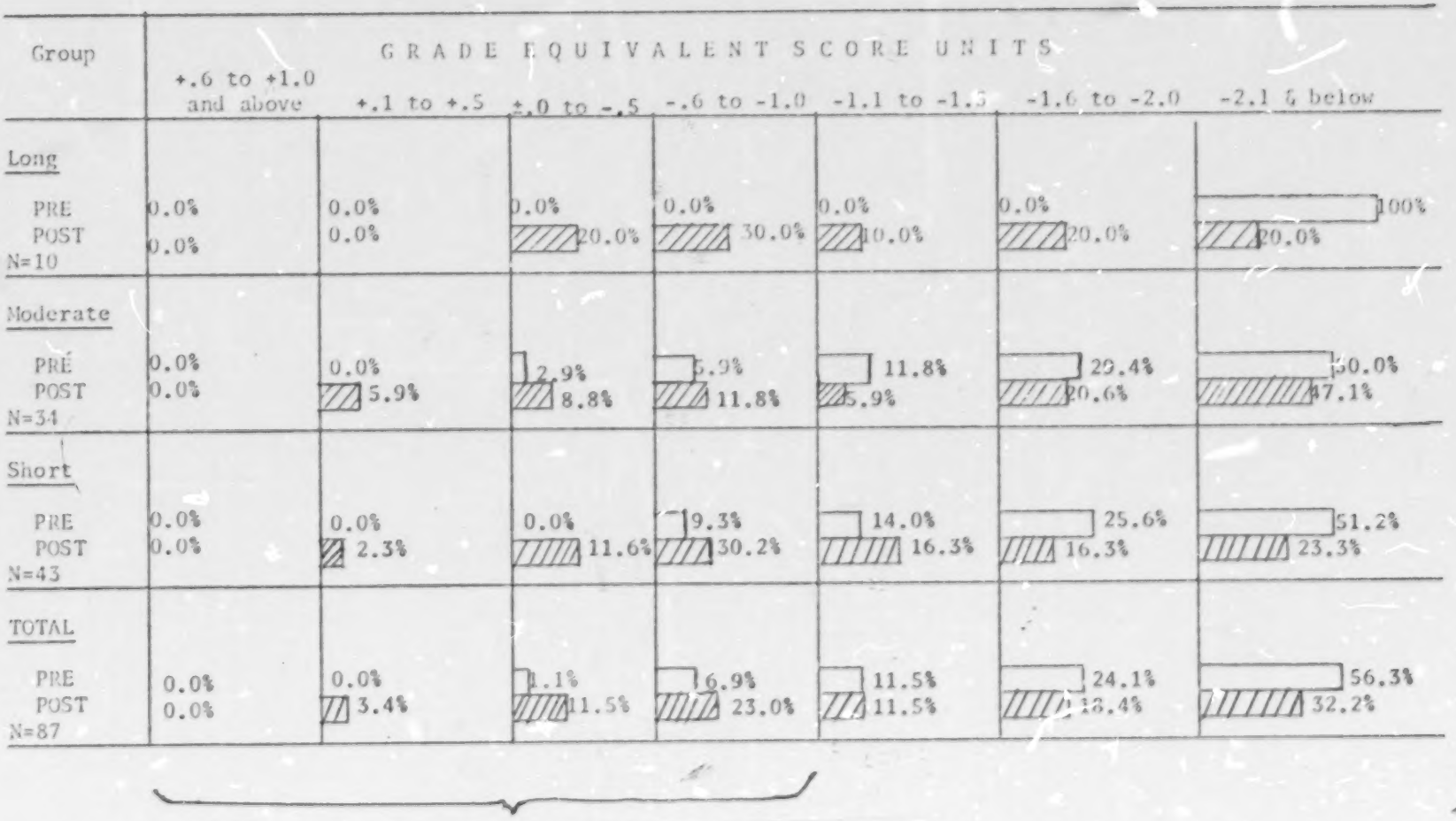
In appraising the impact of Clinic services in terms of the total pupil group, the numbers of pupils at and below their expectancies increased about 18 per cent. Before service about one out of 12 pupils (8 per cent) were at or above a tolerable level, while after service, about three out of eight pupils, (about 37.9 per cent), were at this level.

Clinic services during the 1968-69 and 1969-70 years resulted in 42 and 60 per cent of the pupils, respectively, placing within a year or less of their expectancies. In the 1970-71 evaluation 40 per cent of the service group reached the criterion. The most noticeable change in the 1970-71 evaluation was the depressed number of pupils in the long-term group who attained criterion level although this group achieved the greatest gains of all the service groups. The 1971-72 long-term group again reflected problems which were not as readily improved by service. Appendix V includes the data related to differences between reading expectancy and performance level observed for the 1972-73, 1971-72, 1970-71, 1969-70 and 1968-69 school years.

CHART III

Difference Between Reading Expectancy
and Performance Level

1972-73



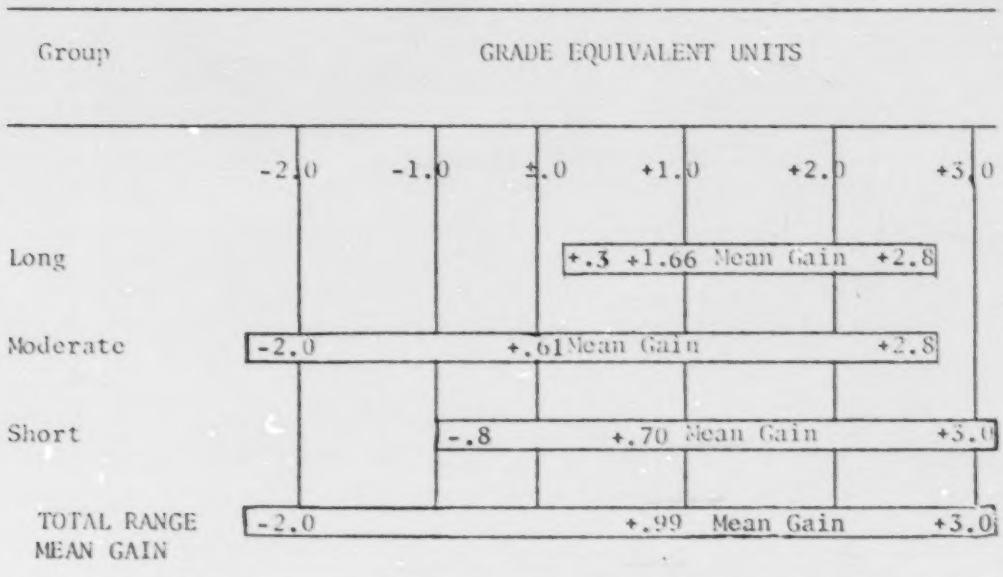
A second question of interest in the evaluation involved:

What improvement did pupils receiving long, moderate, and short-term service make in reading?

When pre-program differences between reading expectancy and performance level were compared with those observed at the close of the program, the following average gains occurred for the various assignment groups.

CHART IV

Range of Gain Scores Between Pre and Post-Program Reading Expectancy and Reading Levels (Based on Comprehension Scores)



The average term of service for the total pupil group was 3.91 months. For the long-term group, the average was 5.50 months. The moderate-term average service period was 3.63 months, while the short-term average was 2.60 months.

Relating average assignment period to average gain in grade equivalent units indicates that progress for the long-term group, the most severely disabled, was average growth one and two-thirds times as great as that which could have been anticipated for typical pupils making progress at the rate of 1. grade equivalent units per month in relation to an increasing expectancy of .1 units per month. Short-term pupils maintained a progress rate almost triple that considered to be typical in an average service period of two and one-half months. Moderate-term pupils achieved an average gain almost double times that considered typical in an average service period of slightly more than three and one half months.

Progress of pupils in the current Clinic sample, while surpassing that attained by the 1968-69 service group, fell below the performance levels reflected by the 1971-72 sample. Appendix VI summarizes the gain scores obtained by the previous samples during 1968-1972.

An additional dimension of the progress rate reflected by the current Clinic service groups can be seen from the standard scores obtained on the pre- and post-program vocabulary and comprehension tests (Gates-MacGinitie series). Greater growth is evident in comprehension than in vocabulary for long and moderate-term pupils. Chart V presents the standard scores obtained.

CHART V

Pooled Pre and Post-Test Standard Scores
Gates MacGinitie Reading Tests
Primary Forms A, B, C, D, Levels I and II

Term	No. Pupils	Vocabulary Pre	Vocabulary Post	Comprehension Pre	Comprehension Post
Long	10	52.8	56.3	50.4	55.5
Moderate	34	51.3	53.1	49.4	51.1
Short	43	50.2	54.1	46.3	52.3
TOTAL	87				

Four forms of the Gates-MacGinitie tests were used--Form A, B, C and D. The standard score scale provided by the publisher of the tests allows the pooling of these scores. The use of four forms across grade levels precludes the use of the table of minimum significant score differences as was possible with the 1968-69 and 1969-70 samples.

It should also be recognized that the average scholastic aptitude scores for these pupils indicate that all service groups during the 1972-73 year were at least one standard deviation below the mean of a typical population (100). The gains are significantly greater than would have been anticipated on the basis of these scores.

Gain scores of the 1972-73 sample were related to scholastic aptitude scores from the WISC to identify to what

degree gains between expectancy and performance level were associated with these scores. Chart VI shows the relationship of the WISC score and average gain scores for the three service groups:

CHART VI

Average Gains Between Expectancy
and Performance Level
According to WISC Scores

DIAGNOSTIC READING CLINIC

WISC SCORE	LONG-TERM	MODERATE-TERM	SHORT-TERM
106+	2.0	-.1	--
95-105	2.8	1.1	2.4
83- 94	1.5	.3	1.1
71- 82	1.1	.3	.4
Correlation	.617	.145	.052

It may be interpreted that at the p. $\leq$ .05 level the attained critical value of the sample correlation coefficient was significant for the long-term group. The sample correlation of .622 was significant at the .05 level indicating a positive direction of association between intelligence quotients and average gain scores achieved.

A third question for the evaluation was:

> What evidence of progress did pupils exhibit in terms of final marks in reading and use of reading materials in the classroom?

Classroom teacher ratings were obtained to determine what effects were produced by Clinic services in terms of the

functioning level of Clinic-served pupils when using materials employed in their regular classrooms.

Teachers rated an overall total of almost one out of four pupils (23%) as being able to handle classroom materials most of the time. Another 39% were rated as sometimes able to handle these materials. Indicated below are the percentages of pupils assigned to the respective categories on the rating sheets in response to the question:

In your opinion can the child handle the usual reading materials used in his grade?

Always	Most	Sometimes	Rarely	Not at All	No Response
0%	23%	39%	32%	6%	0%

It would appear on the basis of these ratings that about three out of five pupils released from Clinic service were rated in the sometimes to always levels in using the reading materials of their grade level.

An additional indicator of pupil progress was the final mark in reading assigned by the classroom teacher. About two per cent of the Clinic pupils received a final mark of "A". No "B" marks occurred in this sample. Almost one out of two pupils were awarded a "C" and another three out of ten marks of "D". Failing marks were given to about 10% of the sample. The distribution of marks assigned is listed below.

A	B	C	D	F	No Mark Assigned
2.0%	0%	46.0%	37.0%	10.0%	5%

Data from pupil rating sheets prepared by classroom teachers of children receiving Clinic services during the 1972-73 school year were compiled to answer:

What were teachers' perceptions of pupils progress?

Comparison with the 1971-72 rating sheets showed a similar pattern in which pupils were judged within the middle to lowest fifths of their classes in ratings across all areas. In word analysis and comprehension skills ratings, teachers placed the greater numbers of pupils in the current sample in the middle, second lowest and lowest fifths of their classes. In mastering consonant sounds, vowel sounds and sight reading, 28.7 per cent to 30.8 per cent were rated in the middle fifth of their classes as opposed to 31.0 to 36.0 per cent in the 1971-72 evaluation. The range of per cent of pupils rated in the top fifth and second highest fifth was highest in recognition of consonant sounds, identifying sight words at grade level and participation in the reading group. The range of per cents was 12.1, 13.2 and 13.6 per cent respectively.

Teachers reported observing improvement in reading behaviors for clinic pupils which included:

- participation in the reading group
- completing written assignments
- self confidence
- peer rapport
- general attitude toward school

Upward directional growths were noted in the areas of participation, self-confidence and general attitude toward school. Teachers reported noting "very much" improvement in these areas for 26.0, 27.6 and 22.3% of pupils in the evaluation sample respectively.

Teachers observed that the greatest changes for pupils receiving clinic services included:

- improved self-confidence
- knowledge of sight words
- mastery of word analysis skills
- attitude toward reading
- freedom from reading tensions

Generally, teachers viewed the 1971-72 pupil group as evidencing improvement in reading as the result of Clinic participation.

A fourth matter of concern was:

Did teachers visit the Clinic?

The 1972-73 report revealed that fewer teachers, (74 per cent of respondents) had visited the clinic during this year. A majority reported that there was better communication between clinicians and teachers. It must be recognized that there is a need to assist teachers in the area of communication with other teachers of departmentalized subjects as a vital part of determining the reading progress of pupils who are participants in the Clinic. It was revealed that approximately 28 per cent of the 120 pupils' records randomly selected for the evaluation sample were withdrawn due to incomplete

teacher rating sheets.

In the latter part of the 1971-72 school year, the Diagnostic Reading Clinic implemented a teacher visitation program permitting teachers to visit the clinic during the school day to observe pupils from their classrooms in the Clinic setting. Teachers were briefed regarding Clinic philosophy. Referral procedures and the diagnostic workup were discussed. Staff functions and their relation to pupil participants were presented. Teachers were afforded the opportunity to observe the children and confer with the clinicians. With this procedure, teacher visitation rose to 80 per cent in 1971-72 and decreased to 74 per cent in 1972-73.

Responses from the Parent Survey provided information for the question:

What were parents' perceptions of pupil progress?

Approximately 56 per cent of parents of pupils in the sample returned their questionnaires. Parents reported that the best things about the program were:

- ability of the teachers to get the child to read
- increased understanding of content
- interest shown in child's reading problem
- improved reading habits

Parents were unanimous in recommending that clinic services be continued. About 41 per cent reported that their children enjoyed reading more, took more books from the library and read more at home.

Approximately 11.4 per cent of parents from the evaluation pupil sample reported that they had visited the clinic. They stated that their children liked attending the clinic. Parents recommended no changes at the clinic. Parent Visitation meetings were held monthly at the clinic.

Follow-Up Clinician Study

A total of 248 pupils in 14 public and 3 non-public schools, grades 4, 5, and 6 received post-clinic support from Follow-Up Clinicians. The nine clinicians in this phase of the clinic's program served pupils who were considered released from intensive treatment at the Clinic site. Prognostic assessment by Clinic staff suggested that reading support might be needed. The reading performance of these pupils was observed to weaken without continued support. Referrals to the Follow-Up Clinician staff were made. Pupils were supported by Follow-Up Clinicians in their home schools. Project records reflect that:

- approximately one per cent of pupils were eighth - graders
- about three per cent were enrolled in the seventh grade
- forty-five per cent were sixth graders

- slightly better than 34 per cent were enrolled in the fifth grade
- the remaining 17 per cent were fourth graders

The Gates MacGinitie Reading Tests, Primary A, B, C and D, Forms 1 and 2 were administered as post-test measures for these pupils. As in the case of performance levels precludes the use of a table of minimum significant score differences.

Performance standings for 86 of the 104 sixth graders who had received the services of Follow-Up Clinicians was observed from city-wide test scores taken from the Comprehensive Tests of Basic Skills, Level 2, Form Q administered in February, 1973. No attempt was made to compare grade equivalent scores of pupils on the two tests. It was felt that the impact of support might be reflected in the stanine placements of these pupils. The mean average raw score of this group was 12.2, grade equivalent 3.4, stanine 3. It may be interpreted that without this support, further regression might have been observed. The results of this observation remain inconclusive without pre-test scores for comparison.

Longitudinal Study

Follow-up data in the form of standardized reading comprehension test scores were collected from the city-wide test program for 36 sixth graders from the 1970-72 pupil samples remaining in the schools. As sixth graders, they participated in the 1973 administration of the comprehension sub-test of the Comprehensive Test of Basic Skills series.

Median grade equivalent score of the sample was 3.9 which was .7 years below the city-wide test norm of 4.6 for Title I schools. Twenty-five per cent of pupils stood at or above stanine 5. Approximately 50 per cent were two and more stanines below stanine 5.

This information suggests that while one out of four pupils appear to be operating at typical grade level, continuing support for pupils who received clinic service is necessary as they progress through the upper elementary and higher grades. The Diagnostic Reading Clinic is attempting to meet this need through the Follow-Up Clinician's program.

B. Recommendations

The Diagnostic Clinic of the Cleveland Public Schools has demonstrated that with proper diagnostic and remediation techniques, the seriously reading disabled child can be helped. It is recommended that the services provided by the clinic continue.

The clinic might wish to explore the following recommendations drawn from implications of the 1971-72 findings:

- continue application of the selection criteria to insure that Clinic services are extended to those pupils whose severity of reading disabilities would be amenable to the types of remediation offered.
- communicate the criteria for the selection of pupils to be served by Follow-Up Clinicians
- continue the Teacher Visitation program to strengthen the liaison between the clinic and classroom teachers
- increase the number of Satellite Clinics with strategic placement of these centers in all districts of the Cleveland Public Schools
- continue efforts to increase parent visitation at the Clinic site, Satellite Clinics and with the Follow-Up Clinicians.

BEST COPY AVAILABLE

APPENDIX

BEST COPY AVAILABLE

APPENDIX I

Evaluation Sample at
Participating Schools

1972-1973

1.	Almira	1	21.	Kentucky	1
2.	Anton Grdina	4	22.	Lafayette	1
3.	Bolton	3	23.	Longwood	2
4.	Captain Arthur Roth	4	24.	Louis Pasteur	7
5.	Case	1	25.	Margaret A. Ireland	2
6.	Charles H. Lake	2	26.	Marion	1
7.	Charles W. Chestnutt	4	27.	Mary B. Martin	1
8.	Chesterfield	3	28.	Mary M. Bethune	1
9.	Columbia	4	29.	Miles Standish	2
10.	Daniel E. Morgan	1	30.	Mount Pleasant	4
11.	East Clark	1	31.	Paul L. Dunbar	1
12.	Forest Hill Parkway	1	32.	Sowinski	2
13.	Giddings	4	33.	Stanard	4
14.	Hazeldell	6	34.	Sterling	3
15.	Hicks	1	35.	Tremont	2
16.	Hodge	2	36.	Walton	1
17.	Hough	2	37.	Washington Irving	1
18.	John Burroughs	1	38.	Waverly	1
19.	John D. Rockefeller	2	39.	Woodland Hills	1
20.	John W. Raper	1		Non-Public	
			40.	Immaculate Conception	1
				TOTAL	87

Number of Boys Participating 57
Number of Girls Participating 30

BEST COPY AVAILABLE

APPENDIX II

Differences Between Reading Expectancies and Performance

Diagnostic Reading Clinic
Pre and Post Program
1972-1973

No.	Service Period	Dif. Pre	Dif. Post	Chg. Score	No.	Service Period	Dif. Pre	Dif. Post	Chg. Score
1.	S	-1.9	- .9	+1.0	23.	S	-2.0	-2.2	- .3
2.	S	-1.9	-2.2	- .3	24.	S	-1.7	+ .4	+2.1
3.	S	-2.3	-2.4	- .1	25.	S	-1.9	-1.6	+ .3
4.	S	- .8	- .8	± .0	26.	S	-1.8	- .1	+1.9
5.	S	-3.1	-3.5	- .4	27.	S	-1.8	-1.8	± .0
6.	S	-2.1	- .9	+1.2	28.	S	- .6	- .7	- .1
7.	S	-1.9	-1.7	+ .2	29.	S	-1.7	+ .9	+2.6
8.	S	-2.4	-2.3	+ .1	30.	S	-1.1	- .1	+1.0
9.	S	-2.2	-1.5	+ .7	31.	S	-1.0	- .7	+ .3
10.	S	-2.1	-1.3	+ .8	32.	S	-2.6	-3.4	- .8
11.	S	-1.8	- .8	+1.0	33.	S	-1.5	- .9	+ .6
12.	S	-2.8	-1.5	+1.3	34.	S	-3.4	-1.2	+2.2
13.	S	-3.6	-3.6	± .0	35.	S	-2.3	-1.2	+ .9
14.	S	-1.4	- .9	+ .5	36.	S	-2.1	- .9	+1.2
15.	S	-2.4	-2.5	- .1	37.	S	-2.7	-2.5	+ .2
16.	S	-1.5	-2.2	- .7	38.	S	-2.6	- .4	+3.0
17.	S	- .8	- .1	+ .7	39.	S	-2.1	-1.7	+ .4
18.	S	-2.1	- .7	+1.4	40.	S	-2.3	-1.9	+ .4
19.	S	-3.0	-1.6	+1.4	41.	S	-1.2	- .2	+1.0
20.	S	-2.5	-1.2	+1.3	42.	S	-1.7	-1.0	+ .7
21.	S	-3.0	-2.0	+1.0	43.	S	-1.7	-.9	+ .8
22.	S	-2.1	-1.5	+ .6					

BEST COPY AVAILABLE

APPENDIX II (Cont'd)

Differences Between Reading Expectancies
and Performance

Diagnostic Reading Clinic
Pre and Post Program
1972-1973

No.	Service Period	Dif. Pre	Dif. Post	Chg. Score	No.	Service Period	Dif. Pre	Dif. Post	Chg. Score
1.	M	-2.1	- .6	+1.5	18.	M	-3.4	-3.5	- .1
2.	M	-2.2	-2.2	± .0	19.	M	-2.0	-1.7	+ .3
3.	M	-1.7	- .4	+1.3	20.	M	-3.2	-2.7	+ .5
4.	M	-2.0	- .5	+1.5	21.	M	-1.9	-2.6	- .7
5.	M	-3.1	-2.7	+ .4	22.	M	-3.5	-2.9	+ .6
6.	M	-2.0	-2.6	- .6	23.	M	- .8	- .2	+ .6
7.	M	-3.1	- .9	+2.2	24.	M	- .9	+ .4	+1.3
8.	M	-3.1	-2.4	+ .7	25.	M	-4.0	-3.6	+ .4
9.	M	-2.6	-2.2	+ .4	26.	M	-2.5	+ .3	+2.8
10.	M	-2.0	-1.7	+ .3	27.	M	- .3	-2.3	-2.0
11.	M	-4.4	-4.0	+ .4	28.	M	-2.0	-1.3	+ .7
12.	M	-4.2	-4.5	- .3	29.	M	-2.4	-1.9	+ .5
13.	M	-1.2	-1.2	± .0	30.	M	-1.7	-1.3	+ .4
14.	M	-1.4	-1.3	+ .1	31.	M	-1.7	-1.7	± .0
15.	M	-1.2	-2.1	- .9	32.	M	-2.4	- .8	+1.6
16.	M	-1.9	-1.9	± .0	33.	M	-4.2	-3.4	+ .8
17.	M	-3.9	-2.4	+1.5	34.	M	-1.5	-1.9	- .4

BEST COPY AVAILABLE

APPENDIX (Cont'd)

Differences Between Reading Expectancies and Performance

Diagnostic Reading Clinic
Pre and Post Program
1972-1973

No.	Service Period	Dif. Pre	Dif. Post	Chg. Score
1.	L	-2.8	- .9	+1.8
2.	L	-2.9	- .8	+2.1
3.	L	-2.7	-2.4	+ .3
4.	L	-3.5	-2.8	+ .7
5.	L	-3.0	-1.0	+2.0
6.	L	-3.1	- .3	+2.8
7.	L	-3.5	-1.1	+2.4
8.	L	-2.9	-1.7	+1.2
9.	L	-2.8	-1.8	+1.0
10.	L	-2.8	- .5	+2.3

APPENDIX III
SUMMARY OF PUPIL RATING SHEET
DIAGNOSTIC READING CLINIC

BEST COPY AVAILABLE

School _____

DRC 1973

_____ has been receiving services of the Diagnostic Reading Clinic. We are interested in securing from you, his classroom teacher, some observations about his present reading performance. Please return this completed form in the enclosed envelope to DIVISION OF RESEARCH AND DEVELOPMENT no later than FRIDAY, MAY 31, 1974. Thank you for your help.

1. Did you visit the clinic this year? 74% Yes 26% No

2. When was child assigned to receive help from the clinic?

   Since: 73% Oct./Nov. 1972 | 16% Dec./Jan. 1972/1973 | 6% Feb./Mar 1973 | 5% April/May 1973

   Other: _____

3. What is greatest reading problem for this child?

   Comprehension Skills; Inadequate vocabulary; Oral and Silent Reading; Structural Analysis; Sight Words; Work Meaning Skills.

4. Child's final mark in reading for this will be [ ]

A	B	C	D	F	No Grade
2%	0%	46%	37%	10%	5%

5. Child's days of absence for this year as of the date of this report [X 5.57]

6. Child's latest P.L.R. [Md. 91.59] (Test Lorge Thorndike)

BEST COPY AVAILABLE

7. Child's latest Comprehensive Tests of Basic Skills Reading score

Vocab. Gr. Eq.	Compre. Gr. Eq.
2.83	2.7

Circle Test: Level (1), (2), (3)

8. Child's Readiness Test score or grade equivalent

Score		G.E.
48.53	OR	1.87

Please check test: Metropolitan X Lee-Clark ___

9. In your opinion, can this child handle the usual reading material used in his grade?

0% Always

23% Most of the time

39% Sometimes

32% Rarely

6% Not at all

10. In general, have you noted any degree of improvement in:

	Not At All	Some	Very Much	Doesn't Apply
a. Pupil participation in group work	21.7%	50.7%	26.0%	1.6%
b. Pupil written assignments	22.3%	62.6%	11.9%	3.2%
c. Pupil confidence in himself	13.8%	56.9%	27.6%	1.7%
d. Pupil getting along with classmetes	16.8%	49.3%	16.8%	17.1%
e. Pupil's general attitude toward school	19.4%	46.2%	22.3%	12.1%

11. What use does child make of free reading opportunities? (Sample Responses)

Reads materials in classroom; worksheets, prepares book reports, Reads library books; Reads social studies texts; draws reference maps when not scanning library materials.

BEST COPY AVAILABLE

12. From your knowledge of this pupil's work in your classroom, how would you rank this child's reading performance as described below in relation to the other children in your class. (Visualize your class as being divided into fifths.)

Number of pupils in class [ ]

(Please Check)	Rank in Class: Lowest 1/5	Second Lowest 1/5	Middle 1/5	Second Highest 1/5	Top 1/5
a. recognizing consonant sounds	24.2%	28.7%	28.7%	12.1%	6.3%
b. recognizing vowel sounds	27.2%	24.2%	34.8%	9.0%	4.8%
c. identifying sight words for grade level	27.9%	22.0%	30.8%	13.2%	6.1%
d. pronouncing words at grade level	36.5%	26.9%	22.2%	9.5%	4.9%
e. reading orally without undue frustration	31.7%	33.3%	25.3%	4.7%	5%
f. finding main ideas	35.9%	35.9%	23.4%	1.5%	3.3%
g. following sequence	28.1%	37.5%	25%	6.2%	3.2%
h. getting meaning of words from context	33.8%	36.9%	24.6%	1.5%	3.2%
i. recognizing directly stated details	33.8%	29.2%	30.7%	3.0%	3.3%
j. drawing conclusions from facts or statements	28.7%	37.8%	28.7%	3%	1.5%
k. participating in reading group	19.6%	28.7%	36.3%	13.6%	1.8%
l. completing written assignments	31.8%	22.7%	33.3%	7.5%	4.7%

13. In what aspect of reading do you feel that the child has improved as a result of receiving the services of the Reading Clinic.

1. Word Attack
   Completion of Assignments
   Finding Main Idea
2. Confidence in reading skills gained
3. Drawing conclusions from facts

14. We should appreciate having any comments or recommendations about this program.

1. Children should be followed up after completion of clinic assignment as they are not near grade level.

2. Orientation program for parents and students to stimulate interest in the program.

BEST COPY AVAILABLE

CLEVELAND PUBLIC SCHOOLS
Diagnostic Reading Clinic
May, 1973

Dear Parent:

We are contacting parents who have youngsters who have been participating in the Diagnostic Reading Clinic here at _____ _____ School.

Would you please help us by telling us what you think about this program?

1. Do you have a son or daughter in this program? 53% Son 31% Daughter

2. In what grade is your youngster? 29% Gr. 4, 24% Gr. 5, 20% Gr. 6

3. Has the program helped your child?

   0% Not at All 3% Very Little 27% Some 49% Very Much

4. What does your child say about the program?

   Likes it
   Enjoys class/games
   Program helped him
   Thought it very good

5. Have you noticed that your child reads more books at home? 61% Yes 20% No

6. Have you noticed that your child takes more books brom the library?

   42% Yes 36% No

7. How did you find out your child was in this program?

   32% Letter 27% Child Said 31% Teacher Called 3% Other

8. What's the best thing about the program?

9. Has the program helped you to help your child in reading? 64% Yes 7% No
   If yes, how? Child reads better. Shared reading at home. Made parent interested in reading.

10. Do you feel the program should be continued? 53% Yes 3% No

11. What changes should be made in the program?

    Keep the same tutors; More oral reading; Additional books

BEST COPY AVAILABLE

12. Have you visited the Diagnostic Reading Clinic? 17% Yes 39% No

Please return this form in the sealed envelop to your child's teacher who will return it to Mrs. Juanita Logan, Room 603, Division of Research and Development.

Thank you,

Pauline S. Davis
Educational Program Manager
Reading Instruction Program

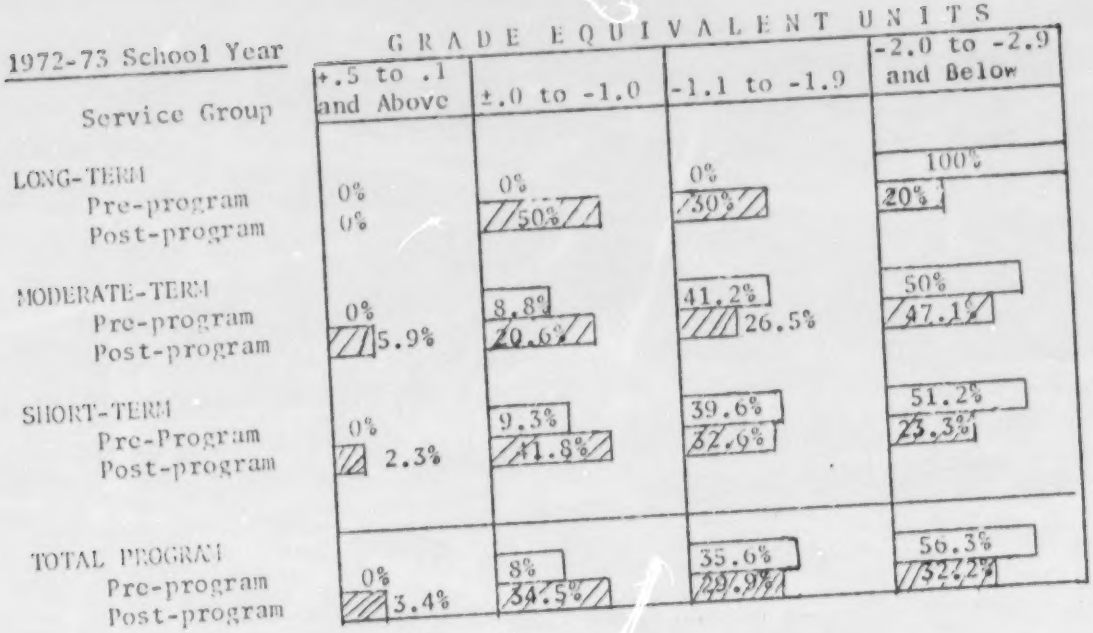
BEST COPY AVAILABLE

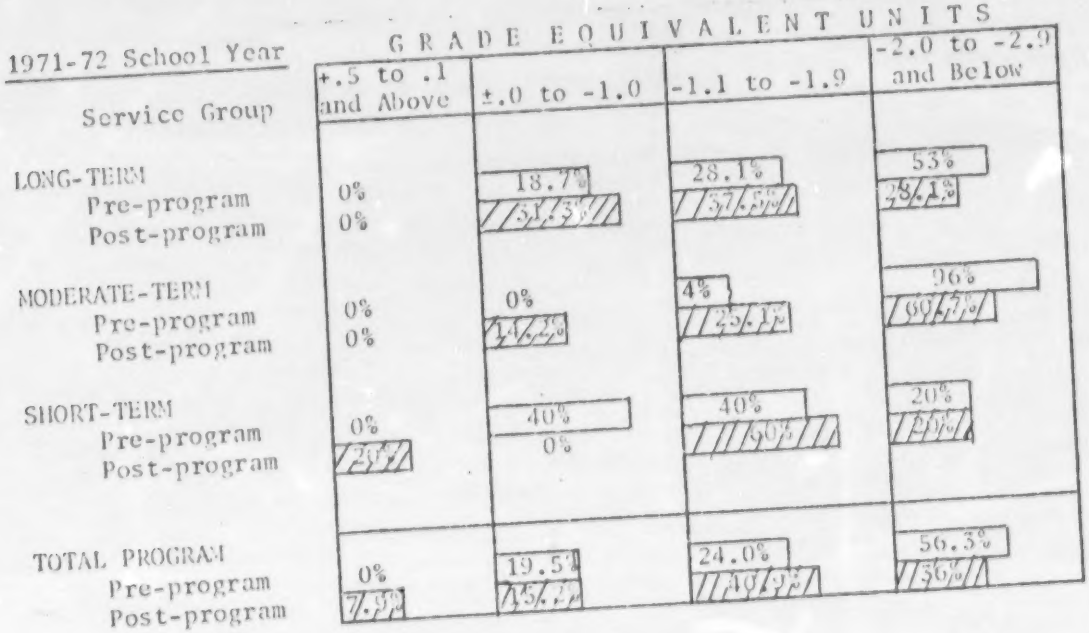
APPENDIX V

Differences Between Reading Expectancy
and Performance Level

Diagnostic Reading Clinic

1972-73 and 1971-72





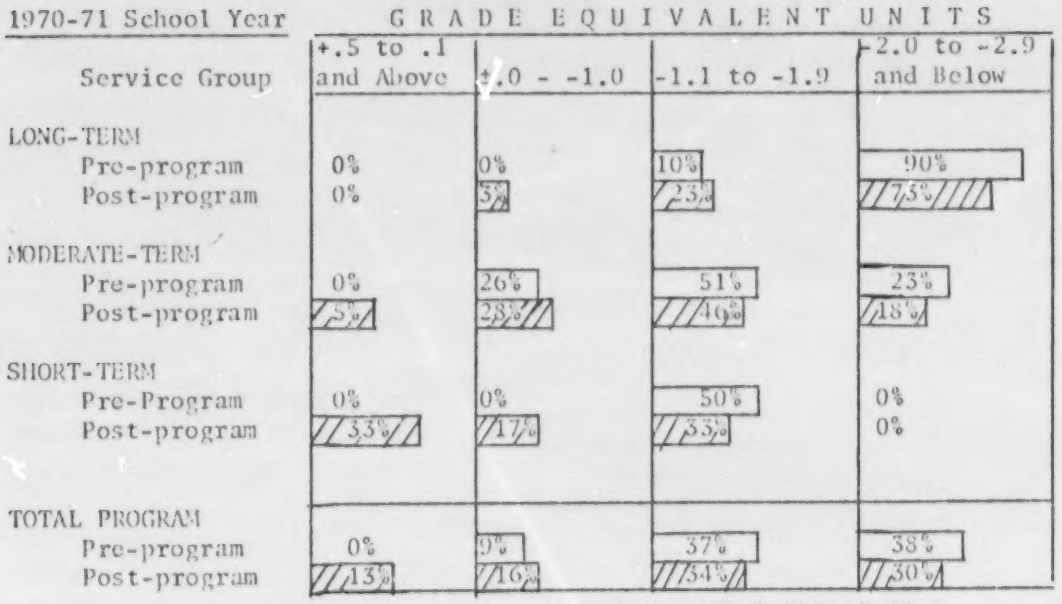
BEST COPY AVAILABLE

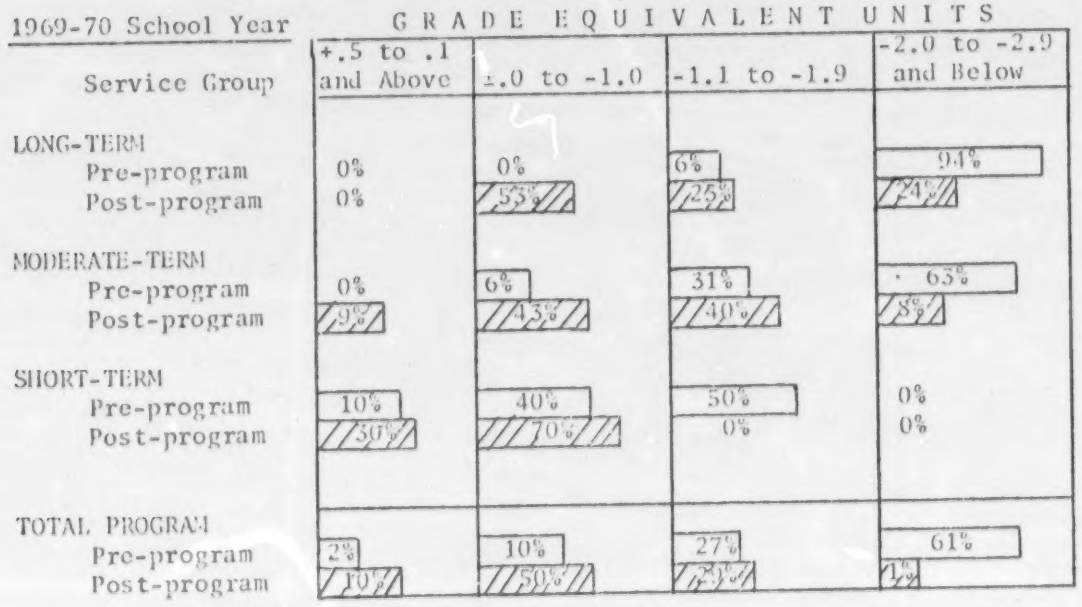
APPENDIX V

Differences Between Reading Expectancy

Diagnostic Reading Clinic

1970-71 and 1969-70





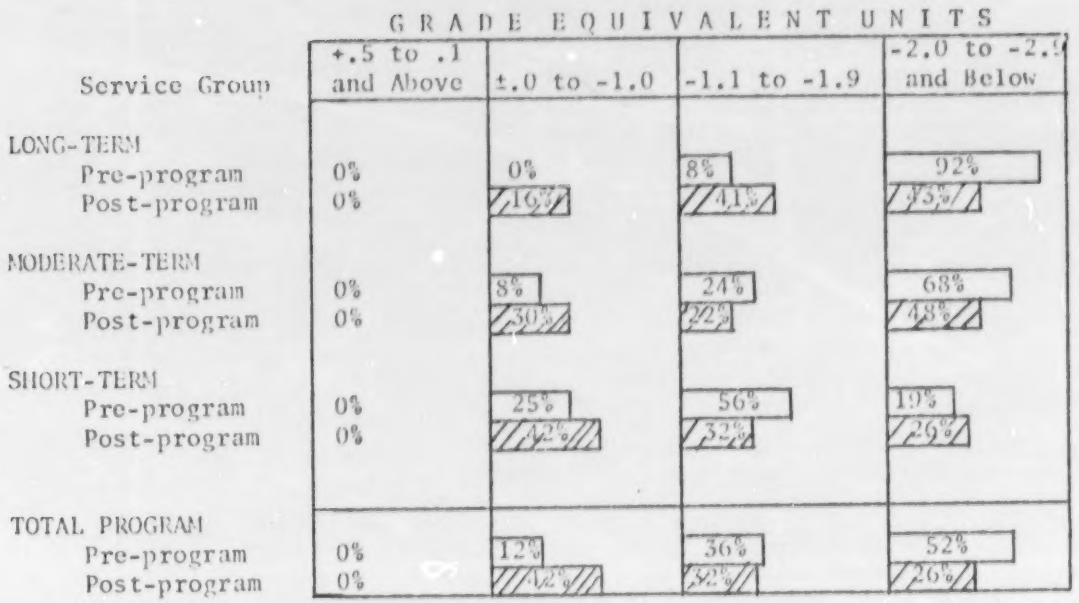
BEST COPY AVAILABLE

APPENDIX V

Differences Between Reading Expectancy
and Performance Level

Diagnostic Reading Clinic

1968-69

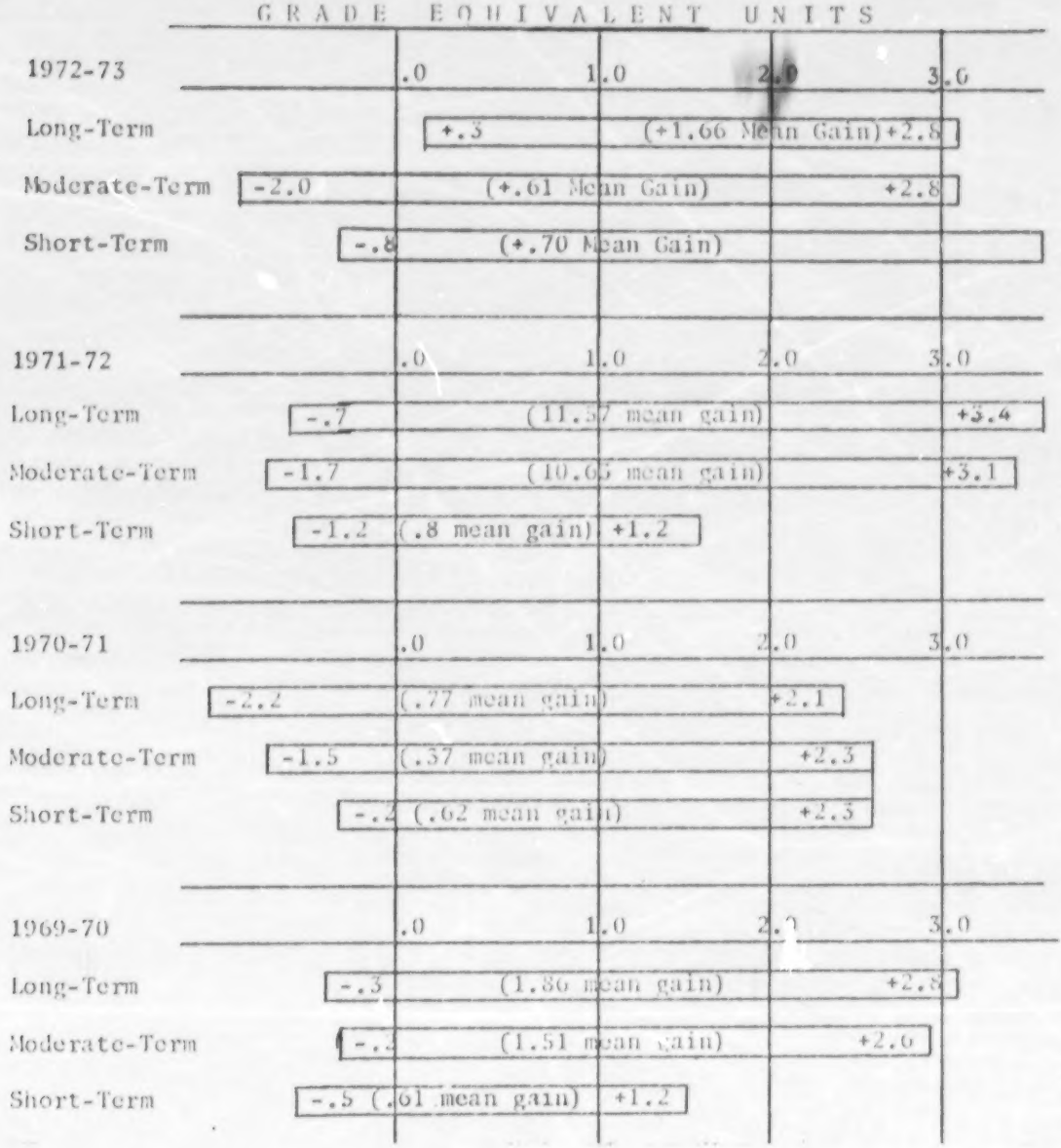


BEST COPY AVAILABLE

APPENDIX VI

Diagnostic Reading Clinic
1972-1973

Range of Gain Scores Between Pre- and Post-Program
Reading Expectancy and Reading Levels
(Based on Comprehension Scores)



BEST COPY AVAILABLE

APPENDIX VI (Cont'd)

Diagnostic Reading Clinic
1972-1973

Range of Gain Scores Between Pre- and Post-Program
Reading Expectancy and Reading Levels
(Based on Comprehension Scores)

1968-69	GRADE EQUIVALENT UNITS				
	.0	1.0	2.0	3.0	
Long-Term	-.4 (.44 mean gain)	+1.5			
Moderate-Term	-.7	(.56 mean gain	+1.8		
Short-Term	-.5	(.60 mean)		+2.5	